

## PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>2030574PC/or</b>	<b>FOR FURTHER ACTION</b> See Form PCT/IPEA/416	
International application No. <b>PCT/FI2004/000214</b>	International filing date (day/month/year) <b>07.04.2004</b>	Priority date (day/month/year) <b>11.04.2003</b>
International Patent Classification (IPC) or national classification and IPC <b>E21B 47/00, E21B 44/00</b>		
Applicant <b>Sandvik Tamrock OY et al</b>		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 4 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

a.  (*sent to the applicant and to the International Bureau*) a total of \_\_\_\_\_ sheets, as follows:

sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).

sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

b.  (*sent to the International Bureau only*) a total of (indicate type and number of electronic carrier(s)) \_\_\_\_\_, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

<input checked="" type="checkbox"/>	Box No. I Basis of the report
<input type="checkbox"/>	Box No. II Priority
<input type="checkbox"/>	Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input type="checkbox"/>	Box No. IV Lack of unity of invention
<input checked="" type="checkbox"/>	Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/>	Box No. VI Certain documents cited
<input type="checkbox"/>	Box No. VII Certain defects in the international application
<input type="checkbox"/>	Box No. VIII Certain observations on the international application

Date of submission of the demand <b>11.11.2004</b>	Date of completion of this report <b>09.12.2004</b>
Name and mailing address of the IPEA/SE Patent- och registreringsverket Box 5055 S-102 42 STOCKHOLM Facsimile No. +46 8 667 72 88	Authorized officer <b>Christer Bäcknert / MRO</b> Telephone No. +46 8 782 25 00

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/FI2004/000214

## Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

This report is based on a translation from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of:

international search (under Rules 12.3 and 23.1(b))  
 publication of the international application (under Rule 12.4)  
 international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

the international application as originally filed/furnished

the description:

pages \_\_\_\_\_ as originally filed/furnished  
 pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
 pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

the claims:

pages \_\_\_\_\_ as originally filed/furnished  
 pages\* \_\_\_\_\_ as amended (together with any statement) under Article 19  
 pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
 pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

the drawings:

pages \_\_\_\_\_ as originally filed/furnished  
 pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
 pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3.  The amendments have resulted in the cancellation of:

the description, pages \_\_\_\_\_  
 the claims, Nos. \_\_\_\_\_  
 the drawings, sheets/figs \_\_\_\_\_  
 the sequence listing (*specify*): \_\_\_\_\_  
 any table(s) related to the sequence listing (*specify*): \_\_\_\_\_

4.  This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

the description, pages \_\_\_\_\_  
 the claims, Nos. \_\_\_\_\_  
 the drawings, sheets/figs \_\_\_\_\_  
 the sequence listing (*specify*): \_\_\_\_\_  
 any table(s) related to the sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.	PCT/FI2004/000214
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**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Claims	<u>1-12</u>	YES
	Claims	_____	NO
Inventive step (IS)	Claims	<u>1-12</u>	YES
	Claims	_____	NO
Industrial applicability (IA)	Claims	<u>1-12</u>	YES
	Claims	_____	NO

**2. Citations and explanations (Rule 70.7)****Documents cited in the International Search Report:**

D1: US 5202680 A1  
 D2: WO 0169041 A1  
 D3: WO 0225319 A2  
 D4: EP 0367495 A2

The invention relates to a method and a system for managing borehole information as well as an identifier incorporated in the system for marking a borehole.

According to the claims, the invention is characterized by at least one identifier, including machine-readable information on the borehole, arranged in connection with the borehole; this is to ensure that the borehole information relates to the correct borehole. In addition to a borehole identification code, the identifier 5 may include e.g. bore hole measurements, drilling or rock type information.

Document D1 discloses system for keeping track of drill string components, each component provided with a machine-readable, uniquely serialized identification code that is linked to individual component information in a data base.

The problem to be solved in D1 is to provide a system for keeping track of individual drill string components and their status regarding wear, footage drilled etc. Thus, the use of individual drill string components could be optimized and the components could be replaced before they break down, causing additional cost and trouble.

.../...

**Supplemental Box**

In case the space in any of the preceding boxes is not sufficient.

Continuation of: **BOX V**

The claimed invention, on the other hand, is intended to provide a solution to the problem of managing borehole specific information in a rock drilling process. The information could relate to drilling and charging plans, bore hole measurements, drilling or rock type information etc. Thus, the claimed method incorporates the steps of arranging an identifier, in connection with a bore hole and which identifier includes machine-readable information; linking the stored information and the bore hole together by means of information read from the identifier. The invention also incorporates a system for carrying out the method and an identifier for marking a bore hole.

Hence, the claimed invention differs from the cited prior art in that it solves another problem and in that the technical features of the invention differs from the disclosed prior art. Therefore, the claimed invention is not disclosed by any of the cited prior art documents.

The cited prior art does not give any indication that would lead a person skilled in the art to the claimed method, system or identifier for marking and managing bore hole information in rock drilling. Even though some components disclosed in D1 resembles components of the present invention, there is no indication in D1 towards keeping track of bore hole specific information. Information is stored and linked to individual drill string components only and no information whatsoever is retrieved relating to the bore hole per se. Consequently, the claimed invention is not obvious to a person skilled in the art.

Accordingly, the invention defined in claims 1-12 is novel and is considered to involve an inventive step.

The invention is industrially applicable.